

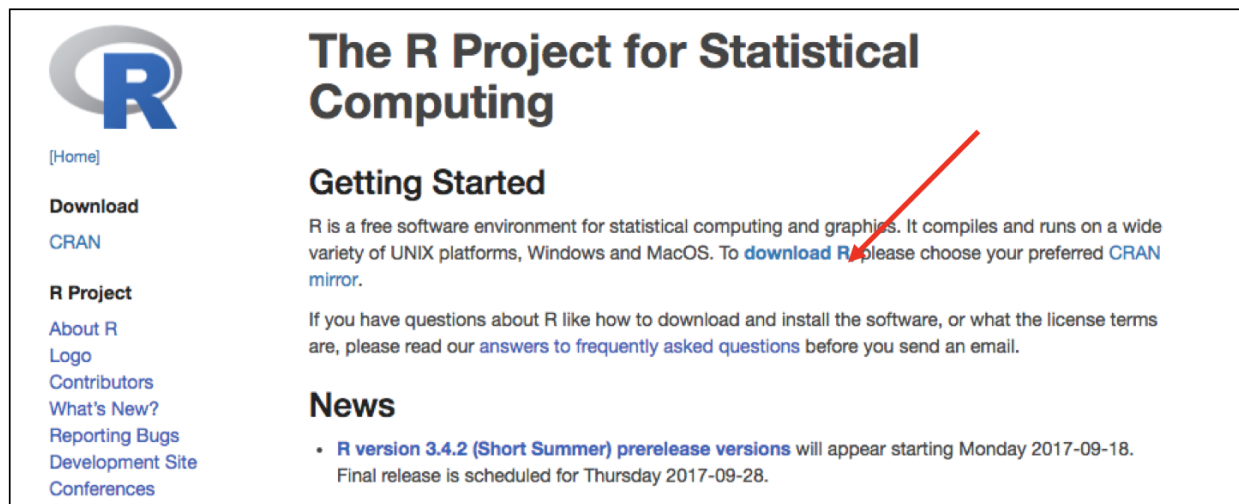
Instructions for Installing R and RStudio

Contents

These instructions are to download R and RStudio so that you can use them locally on your machine.

1. Download R. Go to the main R page.
2. Click on “download R”.
3. Pick a CRAN mirror, any CRAN mirror. I usually pick UCLA, because, GO BRUINS!
4. Choose your operating system
5. Then click on the most recent version on R, at the time these instructions were created, R-3.4.1.pkg
6. Finish installing R as you would any new application. This procedure will vary by operating system.
7. Download RStudio. Go to this page.
8. Click the green “Download” button under the free column.
9. Pick your operating system.
10. Finish installing RStudio as you would any new application. This procedure will vary by operating system.
11. You will ALWAYS open the RStudio application to work, never R. It’s just that you need R installed to use RStudio—R is running in the background whenever you use RStudio.
12. To install the anticipated packages you’ll need for this workshop, run the following code:

```
p_needed <- c("tidyverse", "lubridate", "stringr", "devtools",  
             "ggmap", "GGally", "ggbeeswarm",  
             "mosaic", "lme4", "nlme", "ppcor", "knitr",  
             "rmarkdown", "markdown", "gee", "haven",  
             "psych", "foreign", "lavaan")  
  
packages <- rownames(installed.packages())  
  
p_to_install <- p_needed[!(p_needed %in% packages)]  
  
if(length(p_to_install) > 0){  
  install.packages(p_to_install)  
}
```



The R Project for Statistical Computing

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Getting Started

R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To [download R](#), please choose your preferred [CRAN mirror](#).

If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

News

- R version 3.4.2 (Short Summer) prerelease versions** will appear starting Monday 2017-09-18. Final release is scheduled for Thursday 2017-09-28.

Figure 1:

USA	http://cran.mba.imperial.ac.uk/ https://cran.cnr.berkeley.edu/ http://cran.cnr.berkeley.edu/ http://cran.stat.ucla.edu/ https://mirror.las.iastate.edu/CRAN/ http://mirror.las.iastate.edu/CRAN/ https://ftp.ussg.iu.edu/CRAN/ http://ftp.ussg.iu.edu/CRAN/ https://rweb.crmdata.ku.edu/cran/ http://rweb.crmdata.ku.edu/cran/ https://cran.mtu.edu/ http://cran.mtu.edu/ http://cran.wustl.edu/	Imperial College London University of California, Berkeley, CA University of California, Berkeley, CA University of California, Los Angeles, CA Iowa State University, Ames, IA Iowa State University, Ames, IA Indiana University Indiana University University of Kansas, Lawrence, KS University of Kansas, Lawrence, KS Michigan Technological University, Houghton, MI Michigan Technological University, Houghton, MI Washington University, St. Louis, MO
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Figure 2:

The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- [Download R for Linux](#)
- [Download R for \(Mac\) OS X](#)
- [Download R for Windows](#)

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (Friday 2017-06-30, Single Candle) [R-3.4.1.tar.gz](#), read [what's new](#) in the latest version.

Figure 3:

R for Mac OS X

This directory contains binaries for a base distribution and packages to run on Mac OS X (release 10.6 and above). Mac OS 8.6 to 9.2 (and Mac OS X 10.1) are no longer supported but you can find the last supported release of R for these systems (which is R 1.7.1) [here](#). Releases for old Mac OS X systems (through Mac OS X 10.5) and PowerPC Macs can be found in the [old](#) directory.

Note: CRAN does not have Mac OS X systems and cannot check these binaries for viruses. Although we take precautions when assembling binaries, please use the normal precautions with downloaded executables.

As of 2016/03/01 package binaries for R versions older than 2.12.0 are only available from the [CRAN archive](#) so users of such versions should adjust the CRAN mirror setting accordingly.

R 3.4.1 "Single Candle" released on 2017/06/07

Important: since R 3.4.0 release we are now providing binaries for OS X 10.11 (El Capitan) and higher using non-Apple toolkit to provide support for OpenMP and C++17 standard features. Please read the corresponding note below.

Please check the MD5 checksum of the downloaded image to ensure that it has not been tampered with or corrupted during the mirroring process. For example type

```
md5 R-3.4.1.pkg
```

in the *Terminal* application to print the MD5 checksum for the R-3.4.1.pkg image. On Mac OS X 10.7 and later you can also validate the signature using

```
pkgutil --check-signature R-3.4.1.pkg
```

[R-3.4.1.pkg](#)

MD5-hash: 92126672ca4f9dbcc286c3258c5d3be
SHA-hash: 4138852c052a2056ce648d886b9b47d8a514b762
(ca. 61MB)

Files:

R 3.4.1 binary for OS X 10.11 (El Capitan) and higher, signed package. Contains R 3.4.1 framework, R.app GUI 1.70 in 64-bit for Intel Macs, Tcl/Tk 8.6.6 X11 libraries and Texinfo 5.2. The latter two components are optional and can be omitted when choosing "custom install", they are only needed if you want to use the `tcltk` R package or build package documentation from sources.

Note: the use of X11 (including `tcltk`) requires [XQuartz](#) to be installed since it is no longer part of OS X. Always re-install XQuartz when upgrading your OS X to a new major version.

Important: this release uses Clang 4.0.0 and GNU Fortran 6.1, neither of which is supplied by Apple. If you wish to compile R packages from sources, you will need to download and install those tools - see the [tools](#) directory.

Figure 4:


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Choose Your Version of RStudio

RStudio is a set of integrated tools designed to help you be more productive with R. It includes a console, syntax-highlighting editor that supports direct code execution, and a variety of robust tools for plotting, viewing history, debugging and managing your workspace. [Learn More about RStudio features.](#)

	RStudio Desktop Open Source License	RStudio Desktop Commercial License	RStudio Server Open Source License	RStudio Server Pro Commercial License	RStudio Server Pro + RStudio Connect Commercial License
	FREE	\$995 per year	FREE	\$9,995 per year	\$29,995 per year
	DOWNLOAD	BUY	DOWNLOAD	DOWNLOAD	TALK
	Learn More	Learn More	Learn More	Learn More	Learn More
Integrated Tools for R	●	●	●	●	●
Priority Support		●		●	●
Access via					

Figure 5:


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RStudio Desktop 1.0.153 — Release Notes

RStudio requires R 2.11.1+. If you don't already have R, download it [here](#).

Installers for Supported Platforms

Installers	Size	Date	MD5
RStudio 1.0.153 - Windows Vista/7/8/10	81.9 MB	2017-07-20	b3b4bbc82865ab105c21cb70b17271b3
RStudio 1.0.153 - Mac OS X 10.6+ (64-bit)	71.2 MB	2017-07-20	8773610566b74ec3e1a88b2fdb10c8b5
RStudio 1.0.153 - Ubuntu 12.04-15.10/Debian 8 (32-bit)	85.5 MB	2017-07-20	981be44f91fc07e5f69f52330da32659
RStudio 1.0.153 - Ubuntu 12.04-15.10/Debian 8 (64-bit)	91.7 MB	2017-07-20	2d0769bea2bf6041511d6901a1cf69c3
RStudio 1.0.153 - Ubuntu 16.04+/Debian 9+ (64-bit)	61.9 MB	2017-07-20	d584cbab01041777a15d62cbef69a976
RStudio 1.0.153 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (32-bit)	84.7 MB	2017-07-20	8dfee96059b05a063c49b705eca0ceb4
RStudio 1.0.153 - Fedora 19+/RedHat 7+/openSUSE 13.1+ (64-bit)	85.7 MB	2017-07-20	16c2c8334f961c65d9bfa8fb813ad7e7

Figure 6:

```
lapply(p_needed, require, character.only = TRUE)

install_github("RandiLGarcia/dyadr")
library(dyadr)
```

13. Enjoy!